	Application No.	Applicant(s)
Notice of Allowability	09/896,075	BAK ET AL.
	Examiner	Art Unit	
	VAN H. NGUYEN	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Applicant's amenmends on 05/12/06.*

2. ☒ The allowed claim(s) is/are *1,2,4,10-16,18-23,26-29,and 31-34 (now renumbered as 1-24).*

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date ⬛⬛⬛⬛

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT & REASONS FOR ALLOWANCE

I. EXAMINER'S AMENDMENT:

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37

CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no

later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview with

MR. RAMIN. MAHBOUBIAN (Reg. No. 44, 890) on May 12, 2006.

3.   **The application has been amended as follows:**

A. In the Specification:

All previous copies of the paragraph beginning at page 10, line 22 thru

page 11, line 3 have been replaced with the following clean copy of the

paragraph as amended by the Examiner's amendment:

Fig. 5 illustrates an example of a computer system that may be used to execute the

software of an embodiment of the invention. Fig. 5 shows a computer system 301 that

includes a display 303, screen 305, cabinet 307, keyboard 309, and mouse 311. Mouse

311 may have one or more buttons for interacting with a graphical user interface. Cabinet

307 houses a CD-ROM drive 313, system memory and a hard drive (*see* Fig. 6) which

may be utilized to store and retrieve software programs incorporating computer code that

implements the invention, data for use with the invention, and the like. Although CD-

ROM 315 is shown as an exemplary computer readable storage medium, other computer

readable storage media including floppy disk, tape, flash memory, system memory, and

hard drive may be utilized.

B. In the Claims:

(a) All previous copies of claims 1, 13-15, 22, 23, 26, 27, and 29 have been replaced with the following clean copy of claims 1, 13-15, 22, 23, 26, 27, and 29 as amended by the Examiner's amendment:

Claim 1.   In a computer system, a method of implementing message dispatch for an object-oriented program, comprising:

collecting receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information is collected while the object-oriented program is being interpreted; and

wherein the receiver type information includes references to call sites for each different receiver type to which messages were dispatched from the site;

saving the receiver type information for a subsequent execution of the program; and

determining based on the collected receiver type information whether to compile the method that dispatches messages to receiver objects.

Claim 13. A computer readable medium for implementing message dispatch for an object-oriented program, comprising:

object-oriented computer code that collects receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information is collected while the object-oriented program is being interpreted; and

wherein the receiver type information includes references to call sites for each different receiver type to which messages were dispatched from the site;

object-oriented computer code that saves the receiver type information for a subsequent execution of the program; and

object-oriented computer code for determining based on the collected receiver type information whether to compile the method that dispatches messages to receiver objects.

Claim 14. A computer system that implements message dispatch for an object-oriented program, comprising:

a processor that executes computer code;

computer code that collects receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information is collected while the object-oriented program is being interpreted;

computer code that saves the receiver type information for a subsequent execution of the program;

computer code that determines based on the collected receiver type information whether to compile the method that dispatches messages to receiver objects; and

a computer readable medium that stores the computer code for the processor to execute.

Claim 15. In a computer system, a method of implementing message dispatch for an object-oriented program, comprising:

during interpretation of the object-oriented program, collecting receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information includes each different receiver type and a reference to the site for each different receiver type to which messages were dispatched from the site;

determining that it would be desirable to compile the method that includes the site that dispatches messages to receiver objects;

compiling the method to include the receiver type information at the site that dispatches messages to receiver objects; and

saving the receiver type information for a subsequent execution of the program.

Claim 22. A computer readable medium for implementing message dispatch for an object-oriented program, comprising:

computer code that during interpretation of the object-oriented program, collects receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information includes each different receiver type and a reference to the site for each different receiver type to which messages were dispatched from the site;

computer code that determines that it would be desirable to compile the method that includes the site that dispatches messages to receiver objects;

computer code that compiles the method to include the receiver type information at the site that dispatches messages to receiver objects; and

computer code that saves the receiver type information for a subsequent execution of the program.

Claim 23. A computer system that implements message dispatch for an object-oriented program, comprising:

a processor that executes computer code;

computer code that during interpretation of the object-oriented program, collects receiver type information at a site of a method that dispatches messages to receiver objects;

wherein the receiver type information includes each different receiver type and a reference to the site for each different receiver type to which messages were dispatched from the site;

computer code that determines that it would be desirable to compile the method that includes the site that dispatches messages to receiver objects;

computer code that compiles the method to include the receiver type information at the site that dispatches messages to receiver objects;

computer code that saves the receiver type information for a subsequent execution of the program; and

a computer readable medium that stores the computer code for the processor to execute.

Claim 26. The computer readable medium of claim 13, wherein the nested receiver types include receiver types that were dispatched messages at message dispatch sites in inlined methods.

Claim 27. The computer readable medium of claim 13, wherein the data structure is saved in a Java class file for the method.

Claim 29.   In a computer system, a method of handling messages received by objects in an object-oriented program, said messages being dispatched to said objects to invoke methods implemented by said objects; said method comprising:

collecting, during interpretation of said object-oriented program, information relating to objects, said objects being dispatched messages from a call site of the object-oriented program, said call site being a location or an area of said object-oriented program that dispatches messages to said objects;

determining whether a method should be complied based on at least a portion of said collected information, said method being a method of one of said objects that receives a message dispatched from said call site to invoke said method; and

compiling said method when it is determined that the method should be complied.

(b) Claims 3, 5, 6, 24, and 30 have been cancelled.

II. REASONS FOR ALLOWANCE:

1.   The following is an examiner's statement of reasons for allowance:

2.   Formal drawings filed on July 09, 2004 are acceptable.

3.   The prior art does not expressly teach or render obvious the invention as recited

in amended independent claims 1, 13-15, 22, 23, and 29.

4.   The claimed *"collecting receiver type information at a site of a method that dispatches*

messages to receiver objects; wherein the receiver type information is collected while the object-oriented program is being interpreted", when taken in the context of the claims as a whole, was not uncovered in the prior art teachings.

5.   Nor were references uncovered that would have provided a basis of evidence for asserting a motivation that one of ordinary skill level in the art at the time the invention was made, knowing of a method of implementing message dispatch for an object-oriented program in this specific environment, would have integrated or modified to teach the method of implementing message dispatch for an object-oriented program including collecting, during interpretation of said object-oriented program, information relating to objects and the additional features as recited in the context of independent claims 1, 13-15, 22, 23, and 29.

6.   Dependent claims are allowed as they depend upon allowable independent claims.

7.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONTACT INFORMATION

1.   Any inquiry concerning this communication or earlier communications from the
      examiner should be directed to VAN H. NGUYEN whose telephone number is (571)
      272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM -
      6:00PM. The examiner can also be reached on alternative Friday.

2.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's
      supervisor, WILLIAM THOMSON can be reached at (571) 272-3718.

3.   The fax phone number for the organization where this application or proceeding is
      assigned is **571-273-8300.**

4.   Information regarding the status of an application may be obtained from the Patent
      Application Information Retrieval (PAIR) system. Status information for published
      applications may be obtained from either Private PAIR or Public PAIR. Status
      information for unpublished applications is available through Private PAIR only.
      For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you
      have questions on access to the Private PAIR system, contact the Electronic Business
      Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for patents
P O Box 1450
Alexandria, VA 22313-1450

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